

AMENDMENTS TO THE CLAIMS

1-7. (canceled)

8. (currently amended) A compound that is a derivative of dextromethorphan having the nitrogen-bound methyl group substituted by a C₁₋₆ alkyl group bearing a hydrogen bond accepting an imidazolidine group.

9. (currently amended) ~~The compound of claim 8, in which the hydrogen bond accepting group is~~ A compound that is a derivative of dextromethorphan having the nitrogen-bound methyl group substituted by a C₄₋₅ alkyl group bearing a keto group, a guanidinium group or a nitrogen-containing heterocyclic group.

10. (canceled)

11. (withdrawn, currently amended) A compound comprising

a hydrophobic group comprising a saturated or unsaturated alkyl chain containing 4 to 10 carbon atoms, a saturated hydrocarbon ring containing 5 or 6 carbon atoms, or at least one ring that includes at least two conjugated unsaturated bonds, said ring optionally being fused to additional rings to form a ring system and said additional rings optionally including one or more hetero atoms;

a hydrogen bond accepting group selected from the group consisting of an imidazolidine group or a keto group, ~~a nitrogen-containing heterocyclic group and a guanidinium group~~;

a linker joining said hydrophobic group and said hydrogen bond accepting group and comprising 1 to 4 carbon atoms and optionally containing an oxygen or sulfur atom;
the compound having activity as a non-competitive inhibitor of Rb⁺ efflux of a ligand-gated neurotransmitter ion channel receptor with an IC₅₀ of less than 10 µM.

12. (withdrawn) The compound of claim 11, in which the ring is a planar, aromatic ring system.

13. (withdrawn) The compound of claim 11, in which the ring is selected from the group consisting of a phenyl ring, a naphthyl ring, morphinan and dibenzo [1.4] diazepine.

14-16. (canceled)

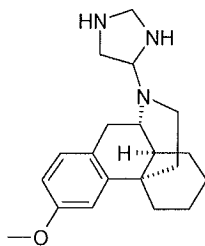
17. (canceled)

18. (withdrawn, currently amended) The compound of claim 11, in which the hydrophobic group is one comprising at least one ring comprising at least one heteroatom, ~~and the hydrogen bond accepting group is a nitrogen-containing heterocyclic group or a guanidinium group.~~

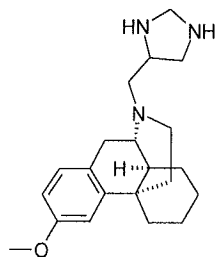
19. (previously presented) The compound of claim 11, in which the ring is a morphinan ring system.

20. (canceled).

21. (previously presented) A compound having the structure



or



22. (previously presented) The compound of claim 8, that is a non-competitive inhibitor of a nicotinic acetylcholine receptor and binds to the lumen of the pore of said receptor with a ΔG of -8.5 kcal/mol or less.

23. (previously presented) The compound of claim 8, that is a non-competitive inhibitor of Rb^+ efflux of a ligand-gated neurotransmitter ion channel with an IC_{50} of less than 10 μM .

24. (previously presented) The compound of claim 19, that is a non-competitive inhibitor of a nicotinic acetylcholine receptor and binds to the lumen of the pore of said receptor with a ΔG of -8.5 kcal/mol or less.

25. (previously presented) The compound of claim 19, that is a non-competitive inhibitor of Rb^+ efflux of a ligand-gated neurotransmitter ion channel with an IC_{50} of less than 10 μM .